



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,338	02/05/2004	Jong Heon Kim	K-0605	2556
34610 7590 02/11/2008 KED & ASSOCIATES, LLP P.O. Box 221200 Chantilly, VA 20153-1200			EXAMINER TRAN, KHAI	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 02/11/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/771,338

Applicant(s)

KIM, JONG HEON

Examiner

KHAI TRAN

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 and 22 is/are allowed.
- 6) ☒ Claim(s) 1,2,8,9,13,14,16,17 and 20 is/are rejected.
- 7) ☒ Claim(s) 3-7,10-12,15,18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/17/2005.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 8-9, 13-14, 16-17, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gavnoudias et al (US 2003/0138030) in view of Eltavil et al (US 2003/0142726).

Regarding claim 1, Gavnoudias et al disclose an apparatus for coherent combining an apparatus as shown in Figure 1(b) for coherent combining type demodulation in a communication system using orthogonal modulation, the apparatus comprising: means for generating a phase reference signal from signals received via multi-paths (from a plurality of fingers 108, see [0092] to [0093]; means for detecting phase error values of the signals received via the multi-paths using the phase reference signal, respectively (a combiner); and means for compensating the received signals via the multi-paths by applying the detected phase error values thereto, respectively (see [0101]). Gavnoudias et al fail to disclose using orthogonal modulation in the a communication system

Eltavil et al disclose an universal rake receiver using orthogonal modulation in the communication system (see [0019]). It would have been obvious to one having ordinary skill in the art at the time the invention was made

to use the orthogonal modulation in the communication system as taught by Eltavil et al into the teachings of Gavnoudias et al in order to identify and recover the code transmitted from the multipath signal.

Regarding claim 2, Gavnoudias et al further disclose comprising means for delaying the received signals while the phase error values detecting means detected the phase error values (see [0072]).

Regarding claim 8, Gavnoudias et al also disclose wherein the orthogonal code is Walsh code (see [0020]).

Regarding claim 9, Gavnoudias et al disclose a receiver in communication system using orthogonal modulation, comprising: an index detector for detecting Walsh index indicating maximum Walsh code by calculating an energy of each Walsh code correlation value of signals received via multi-paths (see [0074]); and a plurality of fingers for receiving the Walsh index generated from the index detector and for compensating the signals received via the multi-paths, respectively (see [0101]). Gavnoudias et al fail to disclose using orthogonal modulation in the a communication system

Eltavil et al disclose an universal rake receiver using orthogonal modulation in the communication system (see [0019]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the orthogonal modulation in the communication system as taught by Eltavil et al into the teachings of Gavnoudias et al in order to identify and recover the code transmitted from the multipath signal.

Claim 13 is similar to claim 9. Therefore, claim 13 is rejected under a similar rationale.

Claim 14 is similar to claim 1. Therefore, claim 14 is rejected under a similar rationale.

Claim 16 is similar to claim 1. Therefore, claim 16 is rejected under a similar rationale.

Claim 17 is similar to claim 2. Therefore, claim 17 is rejected under a similar rationale.

Claim 20 is similar to claim 8. Therefore, claim 20 is rejected under a similar rationale.

Allowable Subject Matter

3. Claims 3-7, 10-12, 15, 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 21-22 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: Gavnoudias et al and Eltavil et al fail to disclose A coherent combining type demodulation method using orthogonal modulation in a communication system, comprising the steps of: finding Walsh correlation values of the despread signals; finding symbol energy values of the Walsh correlation values and detecting Walsh index having a maximum symbol energy among the symbol energy values; estimating phase error values of the Walsh correlation

values by generating the Walsh correlation value corresponding to the Walsh index as a phase reference signal; finding the Walsh correlation values of the phase-compensated despread signals.

Conclusion


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Toda (US 2003/0012262 A1) discloses a wireless receiver and method of wireless reception.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


KHAI TRAN
Primary Examiner
Art Unit 2611

KT
February 6, 2008